IN THE CLAIMS:

Please amend claims 7 and 11, and add new claims 16-19, as follows:

1-6. (Previously Cancelled)

7. (Currently Amended) A method for making a high fill factor image array comprising the steps:

providing a plurality of source-drain metal contacts;

depositing a first passivation layer;

depositing a second passivation layer that suppresses lateral leakage current;

opening a plurality of via holes through the first and second passivation layers;

depositing a layer of conductive material;

depositing a first doped a-Si layer;

patterning to form collection electrodes;

depositing a continuous layer of i a-Si disposed on the second passivation layer;

depositing a continuous second layer of doped a-Si;

depositing and patterning an upper conductive layer.

8. (Original) The method for making a high fill factor image array according to claim 7, wherein the first passivation layer comprises silicon oxynitride, BCB, or a polyamide.

9. (Original) The method for making a high fill factor image array according to claim 7, wherein the second passivation layer is an oxide.

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10. (Currently Amended) The method for making a high fill factor image array according to claim 7, wherein the second passivation layer has a thickness of about 1000 Å.

11. (Currently Amended) A high fill factor image array formed by:

providing a plurality of source-drain metal contacts;

depositing a first passivation layer;

depositing a second passivation layer over the first passivation layer that suppresses lateral leakage current;

opening a plurality of via holes through the first and second passivation layers;

depositing a layer of conductive material;

depositing a first doped a-Si layer;

patterning to form collection electrodes;

depositing a continuous layer of i a-Si disposed on the second passivation layer;

depositing a continuous second layer of doped a-Si;

depositing and patterning an upper conductive layer.

12. (Original) The high fill factor image array of claim 11, wherein the first passivation layer comprises at least one of silicon oxynitride, BCB, or a polyamide.

13. (Original) The high fill factor image array of claim 11, wherein the second passivation layer is an oxide.

14. (Previously Amended) The high fill factor image array of claim 11, wherein the second passivation layer has a thickness of about 1000 Å.

15. (Previously Amended) The high fill factor image array of claim 11, wherein a thickness of the second passivation layer is less than a thickness of the first passivation layer.

16. (New) A method for making a high fill factor image array comprising:

providing a source-drain metal contact;

depositing a first passivation layer over the source-drain metal contact;

depositing a second passivation layer over the first passivation layer;

opening a via hole through the first and second passivation layers to expose the source-drain metal contact;

depositing a layer of conductive material on the source-drain metal contact, such that the layer of conductive material makes electrical contact with the source-drain metal contact;

depositing a first doped a-Si layer on the layer of conductive material;

patterning the a-Si layer and the layer of conductive material to form a collection electrode;

depositing sensor material comprising a continuous layer of i a-Si over the collection electrode and at least a portion of the second passivation layer;

depositing a continuous layer of doped a-Si over the continuous layer of i a-Si;

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depositing a conductive layer over the continuous layer of doped a-Si; and patterning conductive layer to form an upper electrode.

17. (New) The method for making a high fill factor image array according to claim 16, wherein the first passivation layer comprises silicon oxynitride, BCB, or a polyamide.

18. (New) The method for making a high fill factor image array according to claim 16, wherein the second passivation layer is an oxide.

19. (New) The method for making a high fill factor image array according to claim 16, wherein the second passivation layer has a thickness of about 1000 Å.

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